

SECRET

MONTHLY REPORT

[REDACTED]

25X1

PAR 216

3 April 64

SUBJECT: Exposure of Photographic Materials with Lasers

TASK/PROBLEM

1. Determine the manner and degree of the interaction of present and predictable future photographic films with coherent radiation from laser sources in the red and near IR spectrum ranges.

DISCUSSION

2. Preliminary exposures were made with the [REDACTED] Model 130 He-Ne laser to acquaint ourselves with the general sensitometric and optical conditions. A negative lens element was used to disperse the beam to expose a moderate area on the film sample. The observations seem to confirm the experiences of others. The exposed films contained:

25X1

- a. Strong interference patterns associated with the laser aperture.
- b. Interference patterns from foreign particles (dust, etc.) in the beam.
- c. Fringe patterns that may be objective, when a sharp edged mask is placed anywhere within the laser beam.

PLANNED ACTIVITY

3. During April preliminary sensitometric measurements will be made with a [REDACTED] 5200 He-Ne laser and compared with measurements made from a calibrated tungsten filament.

25X1

GROUP-1
Excluded from automatic downgrading
and declassification

Declass Review by
NIMA/DOD

SECRET